

Marin Clean Energy -- aggregated portfolio -- GHG emissions

	2010 ¹	2011	2012	2013	2014	2015	2016
MCE disclosed emissions (lbs CO2e)	29,550,726	69,322,741	212,864,133	403,906,423	406,651,211	546,766,462	592,442,037
MCE MWh annual sales (MWh)	91,219	185,493	570,144	1,110,487	1,254,794	1,695,274	2,125,091
MCE advertised GHG Emission Rate (lbs CO2e per MWh)	324	374	373	364	324	323	279

Undisclosed Emissions:

MCE PCC 2 (MWh)	0	6,203	32,731	62,094	120,282	164,801	311,000
Undisclosed GHGs (lbs): PCC 2 MWh at 943.58 lbs per MWh	0	5,853,027	30,884,317	58,590,657	113,495,690	155,502,928	293,453,380
MCE PCC 3 (MWh)	3,500 ²	24,500 ³	203,029	345,000	382,500	256,108	68,059
Undisclosed GHGs (lbs): PCC 3 MWh x 943.58 lbs per MWh ⁴	3,302,530	23,117,710	191,574,104	325,535,100	360,919,350	241,658,387	64,219,111
GHGs not disclosed by MCE (lbs)	3,302,530	28,970,737	222,458,421	384,125,757	474,415,040	397,161,314	357,672,491

Actual total GHGs (lbs) = disclosed GHGs + PCC 2 + PCC 3	32,853,256	98,293,478	435,322,554	788,032,180	881,066,251	943,927,776	950,114,528
MCE Actual GHG Emission Rate (lbs CO2e per MWh)	360	530	764	710	702	557	447
PG&E Annual Emission Rate⁵	445	393	445	427	435	405	294

¹ MCE launched into business on May 7, 2010.

² Detail from MCE for 2010, its first year of operations, was less than complete. The 3,500 RECs were identified also as 3,000 RECs in various emails from MCE's staff leader, Dawn Weisz. The RECs were reportedly sourced from the South San Joaquin Irrigation District (Robert O. Schulz Solar Farm).

³ MCE's Power Source Disclosure, Schedule 1, filed with the California Energy Commission (CEC) -- attested to CEC on May 31, 2012 -- is inconsistent with what MCE reports in its Technical Committee (5/13/2013). For instance, after submitting regulatory filings to the CEC, MCE retroactively purchased & retired 10,500 "RECs" in March 2013, sourced from the [Noxon large hydro project](#) in Montana, and applied those instruments to its 2011 energy portfolio (MCE did this to attempt to undercut PG&E's lower-than-anticipated 2011 annual GHG emission rate). Large hydro -- 30+ megawatts -- is not "renewable" energy, per California's RPS energy law. Thus, these 10,500 "RECs" did not qualify to have been reported to CEC. Nevertheless, the 10,500 instruments were invented by MCE and added to its originally reported 14,000 RECs, and then included in its carbon-free energy calculations. These 10,500 MWhs and the original 14,000 RECs were advertised as clean energy rather than [system power](#) (aka "Unspecified Sources") that MCE actually purchased and delivered to its ratepayers.

⁴ System Power emission rate is standardized by California Air Resources Board (CARB) at 0.428 Metric Tons CO2e per megawatt-hour (943.58 lbs CO2e per MWh). See CARB website [Electric Power Entity Reporting Requirements](#) (March 21, 2019), page 25, "Unknown or Unspecified Sources (e.g., market purchases)." CCAs use system power ("Unspecified Sources") as delivered energy source behind their PCC 2 and PCC 3 transactions.

⁵ Source: PG&E *Currents* publication. PG&E's GHG emission rate is confirmed by independent 3rd party. MCE cites PG&E's *Currents* when publishing its own comparative annual GHG emission rate in its annually prepared "Understanding MCE's GHG Emission Factors." PG&E reports no PCC 2 or PCC 3 in Annual 33% RPS Compliance Report to CPUC.